net-enabled weapons

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EGLIN AFB, Fla. — During the past several years, the Air Armament Summits conducted here have been a principle venue for the advocacy of network-enabled weapons.

In 2003, the Integrated Armament Planning Panel of the Air Armament Summit highlighted the introduction of a network-enabled weapons capability as the single most cost-effective means available for enhancing overall armament capability against our most challenging targets.

In addition to discussing issues surrounding weapon in-flight tracking, retargeting to engage time-sensitive targets, and provision of endgame information, the panel also considered future weapons that may possess the capability to loiter, search, identify, precisely engage targets and relay information back to the battle staff.

Given this vision, it is little wonder that, in their concluding remarks, the IAP panel recommended "the fielding of a (network-enabled) capability for a select group of weapons at the earliest opportunity" as a way to greatly enhance overall flexibility, lethality and command and control situational awareness.

Earlier this year, the Joint Requirements Oversight Council validated the capabilities outlined in the Tactical Data Link-Transformation Capabilities Development Document, which are planned for achievement within the context of an evolutionary acquisition (spiral) approach.

While the warfighters desire increased operational utility that network-enabled weapons can provide, we have yet to describe exactly what network infostructure these weapons will be accessing. Producers and consumers of information to … what? It turns out that the current answer to the question is service-dependent, with service-specific components such as the Air Force C2 ConstellationNet, the Navy's FORCENet, and the Army's LandWarNet scheduled to eventually merge within the Joint interoperable architectural framework of the Global Information Grid.

Recognizing that details regarding the integration of network-enabled weapons into C2 architectures have received little attention to date, the Weapons Data Link Network has been proposed as a U.S. Joint Forces Command-sponsored FY05 Advanced Concept Technology Demonstration candidate.

Achievement of this capability for weapons to produce and consume information within a network construct will significantly increase our ability to engage time-sensitive targets while enhancing battlespace awareness.

Weapons Data Link Network

▸ Develop standard architecture products for integrating weapons into networks using the DoD Architecture Framework ▸ Implement common terms and definitions to develop a common networks interface to achieve required capabilities ▸ Identify necessary C2 and aircraft infrastructure modifications ▸ Establish baseline Concept of Employments (for weapons' network communication ▸ Provide risk reduction for Weapon System Program Offices ▸ Demonstrate the communications network using surrogate weapons

Threshold platforms include the Small Diameter Bomb, Increment II, the Joint Air-to-Surface Standoff Missile, the Wind Corrected Munition Dispenser–Extended Range, and the Miniature Air-Launched Decoy– Jammer version. The Joint Standoff Weapon and airborne armament being developed by the Army will also be given consideration within the effort.